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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,599	01/16/2006	Henghu Sun	NTD/9004	4186
23409 7590 06/15/2009 MICHAEL BEST & FRIEDRICH LLP 100 E WISCONSIN AVENUE Suite 3300 MILWAUKEE, WI 53202			EXAMINER MARCO'ANTONI, PAUL D	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 06/15/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,599

Applicant(s)

SUN ET AL.

Examiner

Paul Marcantoni

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 20 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38, 39, 41-54 and 56-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38, 39, 41-54, and 56-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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Applicant's arguments filed 5/20/09 have been fully considered but they are not persuasive.

35 USC 103:

Claims 38, 39, 41-54, and 56-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu et al. '345 B1, Fondriest '974, JP 04083744 (Fuchigami et al. abstract), or Novak (CA 2324486) alone or in view of Rae et al. '197.

All of the above cited primary references teach making a cement clinker that nearly matches that of a Portland cement clinker by adding lime (CaO) or limestone to the mixture to make it more hydraulic. The addition of gypsum or calcium sulfate to Portland cement clinker to make Portland cement is old and conventional in the art. The applicants appear to only create a hydraulic cement that parallels that of Portland cement by adding CaO to slag and/or fly ash (also known as coal ash) to make it more hydraulic (see claims and abstract for JP reference for each instant reference cited above). Note that Zhu appears to be the closest prior art yet Novak also teaches the specific composition of the binary wet cement (see p.3 which cites a Canadian patent listed that has the same composition as applicants' binary wet cement). He may teach it as dry yet it would have been an obvious design choice to store specific components of cement prior to application in either wet or dry form.

Rae et al. '197 (hereafter Rae) teach that it is old in the art to make a cement slurry storable by a wet method by simply adding water to the cement and also adding a retarder (applicants call it a "regulating" agent but it is the

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same as a retarder-see claims 1-22 in cols.18-22). It is the examiner's position that the use of a wet storage or dry storage would have been an obvious design choice for one of ordinary skill in the art because both are already known and conventional in the art. Finally, the examiner has cited other references for applicants' review which could have also been applied in the grounds of rejection but were redundant to the teachings of the references in the instant rejection (See PTO 892).

35 USC 112 Second Paragraph:

Claims 53-54 are rejected under the second paragraph of 35 USC 112 for failing to particularly point out and distinctly claim applicants' invention.

The terms "strong alkali" and "strong alkali salt" are indefinite in claims 53 and 54 and any other claim it is used. What defines a strong alkali or strong alkali salt. Please define a specific numerical amount or range of values.

Response to Applicants' Arguments:

35 USC 112 Second Paragraph:

The applicants correction of most issues under 35 USC 112 is respectfully acknowledged and appreciated. The only disagreement left with 35 USC 112 second paragraph issues is over strong alkali or strong alkali salt. The examiner holds that again these are relative and indefinite terms and depending upon which reference book applicants use it may be different. Please provide a specific reference chemistry book/source which defines what applicants alone mean by this term. Applicants would resolve this issue immediately but they must

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define their source and what they mean by this term (ie specific dissociation constant and the reference book from which applicants obtain it or examples of strong alkali salts in the art. Simply stating it is well known and understood in the art is insufficient because there are variations on what each separate source in the chemistry field may define as a strong alkali. Please provide what you mean by this and the source you are using so it is clear for any future review of the prosecution record.

35 USC 103:

The examiner has reviewed applicants' response and found it unpersuasive. The prior art primary references above are not one component cements as applicants define them. It seems that applicants are essentially simply taking waste slag or waste fly ash and converting it into hydraulic material by adding a calcium oxide/lime component to approximate the composition of Portland cement clinker. Both slag and fly ash lack sufficient calcium oxide component and thus it must be separately added. This is essentially making the Portland cement "clinker" which is what applicants define as the "female" component. Portland cement clinker accepted and understood in the art is not yet Portland cement because the calcium sulfate/gypsum component which applicants define as their "male" component has not yet been added. Applicants even admit calcium sulfate/gypsum as their male component. When it is added, Portland cement transforms from Portland cement clinker into Portland cement and this is notoriously known and conventionally understood in the art.

The primary reference all understood and teach adding more CaO to make the "female" slag or fly ash component more hydraulic. It is also known that one of ordinary skill in the art would have understood grinding/comminution means to make either the female "clinker" component from waste materials such as slag or fly ash and the gypsum/calcium sulfate "male" component could be made by wet or dry grinding techniques to for a finely divided powder for each because both were conventionally done in the art and available at the time of applicants' invention.

Also, one of ordinary skill in the art would have understood that separate female (or the clinker component) and male component (gypsum/calcium sulfate) may be stored separately and need not be packaged as part of one of the same package.

Finally, applicants generally addressed references without pointing out specific differences in the references cited, especially the primary references, as to how the teach away from their invention. The examiner fails to see any improvement over the prior art since it is known and old to make a female component (cement clinker) from waste slag or fly ash simply by adding more CaO to make it approximate Portland cement clinker. The alleged "male" component is a conventional and basic ingredient needed to make Portland cement (calcium sulfate/gypsum) and one of ordinary skill in the art would have understood that the clinker and the gypsum/Ca sulfate component can stored separately and added together once the desire to form Portland cement is there. The examiner has addressed fully applicants' remarks.

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THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Paul Marcantoni/
Primary Examiner, Art Unit 1793